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A PHOTOGRAPH AND DESCRIPTION OF *MASTURUS LANCEOLATUS* TAKEN AT TAHITI, MAY, 1930

THE SIXTEENTH ADULT SPECIMEN ON RECORD

By E. W. GUDGER

Through the kindness of Mr. Charles Nordhoff of Papeete, Tahiti, the American Museum is in possession of a photograph of this rare sunfish, the best of three on record, and of the data concerning the fish and its capture. This photograph is such a treasure that it should be published without further delay. But since the pointed-tailed sunfish is so little known (this one being the sixteenth recorded specimen), a brief account of its history and distribution will be added.

The data communicated by Mr. Nordhoff were collected by Mr. Georges W. H. Spitz, and the photograph was taken by Mr. William Crake, both of Papeete. The ichthyologists of the world are indebted to these three gentlemen for their efforts to get the data as to the occurrence of this very rare fish, and its photograph, and to pass them on to be preserved on the published page.

CAPTURE OF *Masturus* AT TAHITI

The history of this interesting specimen is as follows. The fish was caught in Matavai Bay, Haapape, Tahiti, on May 21, 1930. In front of Mahina Plantation, owned by Mr. Charles C. Curtis, a member of the American Museum, is a net fishery in charge of Temeehu, an expert native fisherman. On the day noted, the fish had evidently come in with the easterly trade wind through a break in the reef, and had been left by the receding tide in a shallow wash on the sandy beach, in water of too little depth for it to swim. Here it was caught by Temeehu. When the attention of Mr. Spitz was called to this fish, he recognized it as a rarity, purchased it, had it photographed, and presented it to the Société des Études Océaniques, in whose museum at Tahiti its skin now is. It was identified by Mr. Nordhoff with the aid of H. W. Fowler's 'Fishes of Oceania.'

The measurements of this half-grown specimen are as follows: length, 37.5 in., of which the projecting stumpy tail was 7 in.; depth

21 in., with dorsal and anal fins each measuring about 12 in., giving a total depth of about 40 to 45 in.; thickness about 6 in. The weight was 30 kilos or about 66 lbs. When caught, two sucking fishes (each about

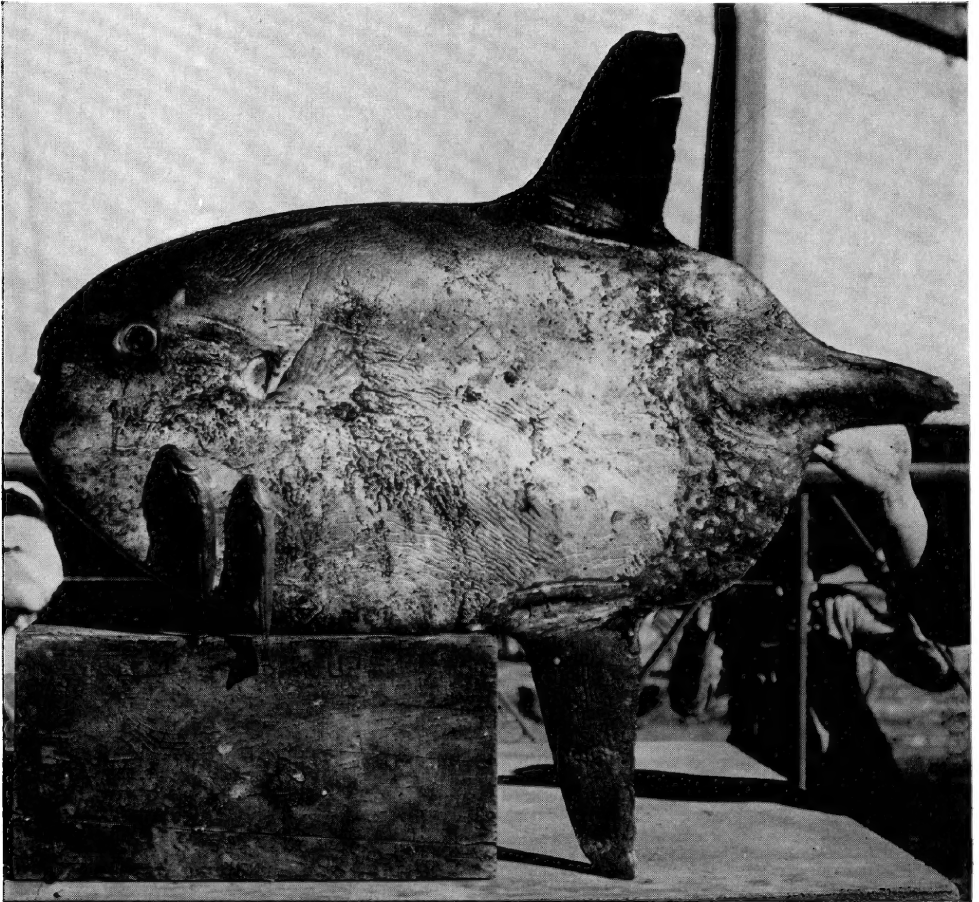


Fig. 1. The pointed-tailed ocean sunfish, *Masturus lanceolatus*, taken at Papeete, Tahiti, May 21, 1930.

Photograph by courtesy of Mr. Charles Nordhoff.

a foot long) were attached on opposite sides of the head, just below each eye. They held on, as they frequently do, until the fish was brought ashore.

Figure 1, made from Mr. Crake's photograph, is by long odds the best representation of this fish ever made. This statement comes after an examination of all published figures. Note the general shape of the body, the relative positions of mouth, eye, small gill aperture, and pectoral

fin, and the wrinklins over the abdominal region. The greatest interest, however, is in the tail, and particularly in the caudal stump. This, which looks to be in line with the vertebral column, is above the median line of the caudal region. It appears as if there were a median rod with the tissues sinking away above and below and being molded into the dorsal and ventral ridges. The point looks as though it had been mutilated. No other figure, save only that made from the Prince of Monaco's photograph, shows such a markedly elongate stump of the caudal fin.

Particular attention must also be called to the spots on the caudal fin and stump. They are to be seen on the base of the dorsal fin and more plainly on that of the anal. Some are also scattered over the body. One wonders if there should not be more. Probably this photograph was not made until some hours after the capture of the fish and until the heat and light of a tropical sun had caused much fading of the colors.

Mr. Nordhoff writes that the pointed-tailed sunfish is so rare at Tahiti that he was able to find only one old native who claimed to know it and who called it "Metua Aahi" or "Parent of the Albacore." The scientific name is interesting—*Masturus*=*maest*, Anglo-Saxon mast or spar+*ura* or *oura*, tail; and *lanceolatus*=a little lance. The names are redundant, emphasizing the fact that the hard stump of a tail projects beyond the general contour of the hinder tail region.

DISCOVERY OF *Masturus* AT MAURITIUS

The pointed-tailed sunfish was discovered at the island of Mauritius and described from two specimens. The first was harpooned in the bay of Grande-Rivière, where it was stranded in water about 3 ft. deep, on May 24, 1835 or 1836 (both dates are given). It was a half-grown fish about 52.5 in. long over all and about 25.5 in. deep. It weighed 117.7 lbs. The second, a full-grown fish, was taken in the roadstead of Port Louis, where it had come aground, on February 7, 1839. This large fish was about 90 in. in total length, and about 43.5 in. in depth. It weighed 742.5 lbs.

Liénard read his paper describing these fishes before the Société d'Histoire Naturelle de l'Ile Maurice on March 7, 1839. A preliminary abstract, 'Description d'une nouvelle espèce du genre Mole (*Orthagoriscus*, Schn.) découverte à l'Ile Maurice,' was published in *Revue Zoologique*, Paris, 1840 (pp. 291-292). The full paper bearing the same title with the addition "et nommée *Orthagoriscus lanceolatus*" appeared with a drawing the following year in *Magasin de Zoologie*, Paris, 1841,

series 2, volume 3, 8 pages, plate. Liénard's figure, the first published, is here shown (Fig. 2) for contrast with the latest published (Fig. 1).

Incidentally it may be remarked that Liénard's smaller specimen had fourteen sucking fish attached to it but only one could be captured. An hour after the bringing ashore of the second fish, two living sucking fishes

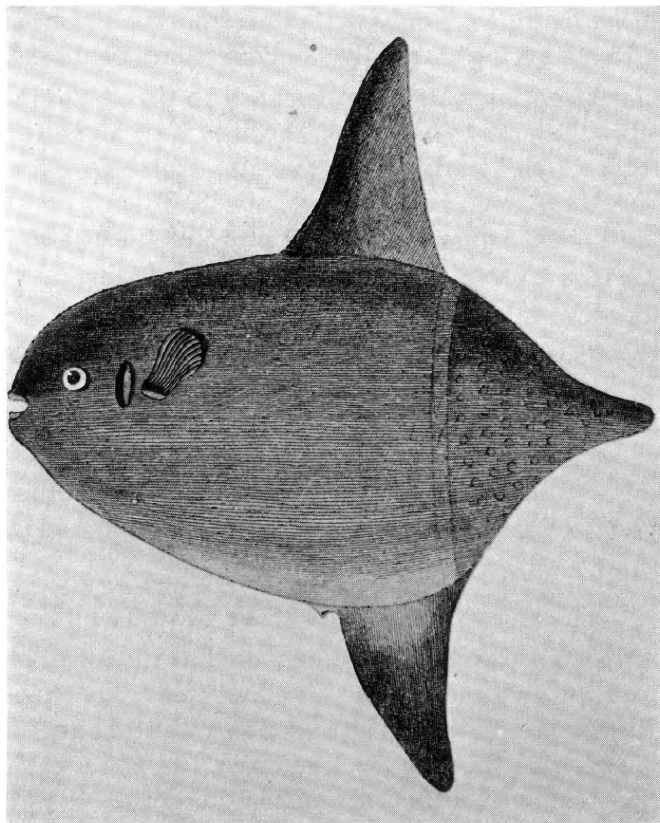


Fig. 2. The first figure of *Masturus lanceolatus* from Amboina.
After Bleeker, 1873.

(size not stated) came out of its gill openings. These two phenomena are not unusual. Large echeneids are commonly found sticking to the sunfish's skin (as found on the Tahitian fish) and small ones are almost always found in the gill cavities.

RELATIONSHIPS OF *Masturus*

It is in order briefly to note the place of this interesting fish in the system. Details will be left for another article.

The ocean sunfishes, comprising the family Molidae, belong to three genera. The oldest genus is *Mola* or *Orthogoriscus*, the short or round-bodied and round-tailed, or millstone-shaped form (*L. mola* = a millstone). This, the commonest form, especially in western European waters, was first figured and described separately in 1554 by two of the fathers of ichthyology, Rondelet and Salviani. *Mola*, as a generic name, was established by Cuvier in 1798, and *Orthogoriscus* by Swainson in 1839.

The second genus, *Ranzania*, the oblong or truncate-tailed sunfish, was established by Nardo in 1839. It was named after another Italian naturalist, Ranzani, who published in 1839 a memoir on the Molidae. It is interesting to note that the species in Hawaiian waters is *R. makua*, and that the specific name means king of the mackerels. This recalls the native Tahitian name, *metua aahi*, parent of the albacore.

The discovery of the third genus, *Masturus*, by Liénard at Mauritius, has been noted. He called his fish *Orthogoriscus lanceolatus* in 1840. Klunzinger collected a specimen at Kosseir on the Red Sea about 1865 but did not know what a treasure he had when he described his fishes in 1871. Bleeker in 1873 figured and described a specimen from Amboina as *Orthogoriscus oxyuropterus*. The genus, *Masturus*, was established by Gill, in 1885. There is but the one species, *lanceolatus*.

The Molidae, together with the families Diodontidae, Tetraodontidae, and others, belong to the suborder Gymnodontes (naked-toothed fishes), and to the order Plectognathi (fused-jawed fishes) of the great group, Teleostei or bony fishes.

HISTORY AND DISTRIBUTION OF *Masturus*

In view of the capture of *Masturus lanceolatus* at Tahiti (the sixteenth recorded specimen), a brief statement of the very wide distribution of this ichthyological rarity will be of interest. Bibliographic and other details will be omitted.

Little is known about *Masturus*. Thus Hubbs in 1931 was able to enumerate but 7 recorded adult specimens (counting Liénard's 2); and Smedley in 1932 listed 7 including 2 not known to Hubbs, but omitting 2 others in Hubbs' list. The total known to the two men was then but 11. However, in this paper I am able to record 16 adult specimens including that under consideration. From this it can be seen how extremely rare is this large marine fish. The list follows in chronological order.

| No. | Date | Reporter | Locality |
|-----|---|---|----------|
| 2 | 1840, 1841. | The type figured and it and the paratype described by Liénard from Mauritius. | |
| 1 | 1871. | Listed by Klunzinger from the Red Sea and deposited in the Berlin Museum. Identified by Collett in 1896 and by Steenstrup and Lütken in 1898. | |
| 1 | 1873. | Figured and described by Bleeker from Amboina. | |
| 1 | 1889. | Figured and described by Albert I. of Monaco in 1889, and by Collett in 1896, from the Atlantic Ocean 350 miles west of the Azores. | |
| 1 | 1918. | Figured by Townsend from east coast of Florida. | |
| 1 | 1922. | Figured and described from Hawaii by Jordan and Jordan and by Fowler in 1928. | |
| 5 | 1927. | Described and one figured by Barnard from Table Bay, South Africa. | |
| 1 | 1931. | Described by Hubbs and Giovanolli from east coast of Florida. | |
| 1 | 1931. | Noted by Hubbs in a Japanese museum. | |
| 1 | 1932. | Figured and described by Smedley from near Singapore. | |
| 1 | 1935. | Figured and described by Gudger from Tahiti. | |
| 16 | 1840-1935. Total recorded adult pointed-tailed ocean sunfishes. | | |

In addition to the 16 adults listed in the table, I have been able to locate 16 young from about 20 to 60 mm. in the North Atlantic Ocean. In addition to these, the late Johannes Schmidt identified considerable numbers of larval and postlarval young from the North Atlantic, particularly from the Sargasso Sea. There can be no doubt that *Masturus* breeds in the North Atlantic. The adults from the three warm oceans and their dependencies are listed in the accompanying table.

DISTRIBUTION OF *Masturus lanceolatus* BY OCEANS

| | |
|----|--|
| | Indian Ocean |
| 3 | 2 from Mauritius; +1 from Red Sea |
| | Pacific Ocean |
| 5 | 1, Singapore; +1, Amboina; +1, Japan; +1, Tahiti; +1, Honolulu; (+2 young) |
| | Atlantic Ocean |
| 8 | 5, Table Bay; +2, Florida; +1, Azores; +(14 young) |
| 16 | adults +16 young +an indefinite number of post- larval forms referred to but not definitely enu- merated by Johannes Schmidt |

In another paper, I purpose to trace the history of *Masturus lanceolatus* in the Indian, Pacific, and the Atlantic Oceans, to give distributional maps and to reproduce all the obtainable figures of this fish, perhaps the rarest of the larger forms.

